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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/709,563	05/13/2004	Roy Gibbs I	81098893 / FMC 1748 PUSP	3562
28395	7590	05/18/2006	EXAMINER	
BROOKS KUSHMAN P.C./FGTL 1000 TOWN CENTER 22ND FLOOR SOUTHFIELD, MI 48075-1238			CULBERT, ROBERTS P	
			ART UNIT	PAPER NUMBER
			1763	

DATE MAILED: 05/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/709,563	<b>Applicant(s)</b> GIBBS ET AL.	
	<b>Examiner</b> Roberts Culbert	<b>Art Unit</b> 1763	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 March 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/22/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Election/Restrictions*

Applicant's election without traverse of Group I (Claims 1-12) in the reply filed on 3/29/06 is acknowledged. Claims 13-20 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 6-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "aesthetic pattern" in Claim 6 is a relative term, which renders the claim indefinite. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 7 recites the limitation "forming in a surface of a metallic plate a plurality of cavities..." It is unclear if the limitation refers to a separate step from the step of removing material from an unmasked portion of a tool surface using a caustic material as recited in Claim 1.

Claim 9 recites the limitation of forming cavities using laser etching. It is unclear if the step is a separate step from the step of removing material using a caustic as recited in Claim 1. Note that the specification recites forming the cavities using *either* laser or chemical methods but does not disclose an embodiment in which a caustic *and* laser are used. (See Paragraphs 18 and 24 of Applicant's Specification.)

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claim 1, 2 and 6 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over U.S. Patent Application Publication 2004/0071936 to Martelli.**

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Regarding Claim 1, Martelli teaches a method for producing a mold tool to achieve a reduced gloss appearance on a surface of a polymeric component (Paragraphs 3-15) produced with the tool, the method comprising: masking a portion of a surface of the tool with a plurality of characters arranged in a character pattern, and applying an etching material to the tool surface, (See Paragraphs 25-33) thereby removing material from an unmasked portion of the tool raised above the surface and leaving the masked portion unmasked portion and forming a tool surface pattern generally matching the character pattern, the tool surface pattern including a plurality of raised portions, each of the raised portions having a maximum width, the average maximum width of the raised portions being less than 350  $\mu\text{m}$ , (Paragraph 29) the tool surface pattern thereby providing a reduced gloss appearance on a corresponding surface of a polymeric component produced with the tool.

Note that *caustic* is interpreted any substance that is capable of destroying or eating away by chemical action.

Martelli does not expressly recite the steps of masking the surface, however, the limitation is inherent in the process of using the conventional techniques suggested by Martelli (photolithography and etching) to form the pattern of depressions and lands in various shapes and sizes. Further the photoresist masking step is conventional in the art as admitted by applicant. (See Paragraph 17 of Specification)

The limitations of “producing a mold tool to achieve a reduced gloss appearance on a surface of a polymeric component produced with the tool” and “the tool surface providing a reduced gloss appearance on a corresponding surface of a polymeric component produced with the tool” are considered intended use of the mold tool as recited. Note that a recitation of the intended use of the claimed invention must result in a manipulative difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art.

Regarding Claim 2, Martin teaches a height of about 0.1-100 microns. (Paragraph 29)

Regarding Claim 6, an aesthetic pattern is provided, as broadly claimed by applicant.

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**Claims 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2004/0071936 to Martelli.**

Regarding Claims 3-5, Martin teaches that the width may vary as needed (Paragraph 31) and that the pattern may have a ratio of depressions to lands of 1-90 percent, but does not expressly provide a range. However, it would have been obvious to one skilled in the art at the time of invention to provide a suitable width and density in order to provide the desired aesthetic appearance.

Regarding Claim 5, the term cylindrical is broadly defined by applicant to include non-circular, oval and polygonal shapes (*See Specification, Paragraph 26*) and so does not define over the shapes of Martelli. Note that Claim 5 recites merely a "maximum width" and thus broadly reads on any width less than 275 microns as well as within the recited range

**Claims 7, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2004/0071936 to Martelli, in view of U.S. Patent 6,988,342 to Luetgert et al.**

Regarding Claim 7, Martelli does not expressly teach the details of the masking, however the steps are old and conventional in the art. For example Luetgert et al. teach at least partially filling portions of an exposed plate with a spreadable material (wax), applying transfer paper to the metallic plate, transferring the wax from the paper to a mold tool surface and etching the mold tool surface. (Col. 7, Lines 44-51) It would have been obvious to one of ordinary skill in the art at the time of invention to use conventional patterning methods for pattern transfer.

Regarding Claim 9, Martelli teaches laser etching may be used to form the cavities (Paragraph 27)

Regarding Claim 10, Martelli teach an average depth of 0.1 to 100 microns.

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**Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2004/0071936 to Martelli, in view of U.S. Patent 6,988,342 to Luetgert et al. as applied above to claims 7, 9 and 10 and in further view of U.S. Patent 3,656,951 to Anderson et al.**

Regarding Claim 8, Martelli does not expressly teach the etch rate of 25 microns per three minutes, however, the etch rate is simply an inherent result of the selected etchant, metal and process conditions such as concentration and temperature. It would have been obvious to one skilled in the art at the time of invention to select from known metals and caustics to achieve a suitable etch rate for the selected metal.

Moreover the formation of lithographic masters from zinc using  $\text{FeCl}_3$  solutions is old in the lithography art and would inherently provide the etch rate using suitable process conditions to form suitably shaped depressions. For example, U.S. Patent 3,656,951 to Anderson et al. teach using ferric chloride as an etchant for zinc printing plates. (Col. 4, Lines 56-60)

**Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2004/0071936 to Martelli. In view of U.S. Patent 5,596,912 to Laurence et al.**

Regarding Claims 11 and 12, Martelli teach performing a conventional abrasive blasting process after the etching process. Martelli does not teach the steps of blasting with multiple steps using a smaller abrasive size. However, the steps of abrasive blasting using a smaller mesh size is conventional in the art of abrasive blasting. For example, Laurence et al. teaches that using progressively smaller abrasive bead sized results in favorable appearance properties. (See Columns 1-4) It would have been obvious to one of ordinary skill in the art at the time of invention to use abrasive blasting in multiple steps using smaller size abrasives in order to provide the desired surface finish.



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Regarding the particular abrasive sizes claimed, selection from the commercially available abrasives would have been obvious to one skilled in the art as a matter of producing a surface having the desired texture and gloss characteristics.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberts Culbert whose telephone number is (571) 272-1433. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Examiner  
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